

Abstract of the Invention

A magnetic recording device including a longitudinal magnetic recording medium. The longitudinal magnetic recording medium includes a magnetically soft underlayer disposed under a longitudinal recording layer. A perpendicular write head is utilized to write data to the longitudinal magnetic recording medium wherein the longitudinal recording layer is disposed within an effective write gap formed by the perpendicular write head and the underlayer. The longitudinal component of the perpendicular write head is sufficient to switch the magnetic grains in the recording layer in the presence of the perpendicular field. The magnetic recording medium can have a high areal density and improved magnetic properties.